

WHAT IS CLAIMED IS

1. A process for producing (meth)acrylic acid, comprising:

contacting a reaction gas containing (meth)acrylic acid obtained by gas-phase catalytic oxidation, with an absorbent solvent to prepare a (meth)acrylic acid solution; and

introducing the (meth)acrylic acid solution into a distillation column to purify (meth)acrylic acid,

after adjusting a dissolved oxygen concentration in the (meth)acrylic acid solution to be introduced into the distillation column to not less than 12 ppm by weight, the (meth)acrylic acid solution being fed to the distillation column.

2. A process according to claim 1, wherein the (meth)acrylic acid solution to be introduced into the distillation column is mixed with oxygen or an oxygen-containing gas to adjust the dissolved oxygen concentration in the (meth)acrylic acid solution.

3. A process according to claim 2, wherein the (meth)acrylic acid solution to be introduced into the distillation column is mixed with oxygen or an oxygen-containing gas, and then introduced into the distillation column.

4. A process according to claim 2, wherein the

(meth)acrylic acid solution to be introduced into the distillation column is mixed with oxygen or an oxygen-containing gas, subjected to a gas-liquid separation, and then introduced into the distillation column.

5. A process according to any of claims 2 to 4, wherein the mixing of the (meth)acrylic acid solution with oxygen or the oxygen-containing gas is performed in a conduit for introducing the (meth)acrylic acid solution into the distillation column, or a static mixer or an orifice disposed in the conduit.

6. A process according to claim 1, wherein a means for the gas-liquid separation is a gas-liquid separation tank equipped with a pressure controlling apparatus.

7. A process according to claim 1 or 2, wherein the dissolved oxygen concentration in the (meth)acrylic acid solution is adjusted in a facility disposed on an upstream side of the distillation column.

8. A process according to any of claims 1 to 7, wherein the (meth)acrylic acid solution is in the form of an aqueous solution, the distillation column is an azeotropic dehydration distillation column, and at least a part of a phenol-based polymerization inhibitor is fed to the azeotropic dehydration distillation column from a raw material feed stage thereof or a position higher than the raw material feed stage, and a

copper-based polymerization inhibitor is fed to the azeotropic dehydration column from a position lower than the raw material feed stage.

9. A process according to claim 8, wherein the azeotropic dehydration column is any of a perforated plate column, a packed column and a combination of a perforated plate column and a packed column.

10. A process for producing (meth)acrylic acid, comprising:

subjecting propane, propylene, isobutylene or t-butanol to gas-phase catalytic oxidation;

contacting the obtained oxidation reaction mixture with water to prepare an aqueous (meth)acrylic acid solution; and

subjecting the aqueous (meth)acrylic acid solution to azeotropic dehydration distillation in the presence of an azeotropic agent,

upon the azeotropic dehydration distillation, a phenol-based polymerization inhibitor being fed to an azeotropic dehydration distillation column from a position not lower than a raw material feed stage thereof, and

a copper-based polymerization inhibitor being fed to the azeotropic dehydration distillation column from a position lower than the raw material feed stage.

11. A process according to claim 10, wherein the azeotropic dehydration distillation column is any of a

perforated plate column, a packed column and a combination of a perforated plate column and a packed column.

12. A process according to claim 10, wherein the phenol-based polymerization inhibitor is hydroquinone, methoquinone or a mixture thereof.

13. A process according to claim 10, wherein the copper-based polymerization inhibitor is at least one material selected from the group consisting of copper dithiocarbamate, copper acetate, copper carbonate and copper acrylate.